

PTO/SB/21 (09-04)  
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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	09/520,927	
	Filing Date	March 8, 2000	
	First Named Inventor	EDWARD J. CLEARY, JR.	
	Art Unit	2672	
	Examiner Name	Ryan R. Yang	
Total Number of Pages in This Submission	9	Attorney Docket Number	6960 US

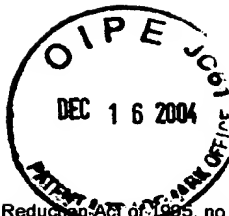
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): APPENDIX
<div>Remarks</div>		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	TEKTRONIX, INC.		
Signature			
Printed name	FRANCIS I. GRAY		
Date	DECEMBER 13, 2004	Reg. No.	27,788

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# FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT (\$ ) 500.00

## Complete if Known

Application Number	09/520,927
Filing Date	03/08/2000
First Named Inventor	EDWARD J. CLEARY, JR.
Examiner Name	Ryan R. Yang
Group Art Unit	2672
Attorney Docket No.	6960 US

## METHOD OF PAYMENT

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number: 20-0352  
Deposit Account Name: TEKTRONIX, INC.

- ☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

- ☐ Applicant claims small entity status. See 37 CFR 1.27

2. ☐ Payment Enclosed:

☐ Check ☐ Credit card ☐ Money Order ☐ Other

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
101 740	201 370	Utility filing fee	
106 330	206 165	Design filing fee	
107 510	207 255	Plant filing fee	
108 740	208 370	Reissue filing fee	
114 160	214 80	Provisional filing fee	

SUBTOTAL (1) (\$ )

### 2. EXTRA CLAIM FEES

Total Claims:  -20\*\* =  X  =   
Independent Claims:  -3\*\* =  X  =   
Multiple Dependent:  =

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
103 18	203 9	Claims in excess of 20
102 84	202 42	Independent claims in excess of 3
104 280	204 140	Multiple dependent claim, if not paid
109 84	209 42	** Reissue independent claims over original patent
110 18	210 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ )

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
105 130	205 65	Surcharge - late filing fee or oath	
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	
139 130	139 130	Non-English specification	
147 2,520	147 2,520	For filing a request for <i>ex parte</i> reexamination	
112 920*	112 920*	Requesting publication of SIR prior to Examiner action	
113 1,840*	113 1,840*	Requesting publication of SIR after Examiner action	
115 110	215 55	Extension for reply within first month	
116 400	216 200	Extension for reply within second month	
117 920	217 460	Extension for reply within third month	
118 1,440	218 720	Extension for reply within fourth month	
128 1,960	228 980	Extension for reply within fifth month	
119 320	219 160	Notice of Appeal	
120 320	220 160	Filing a brief in support of an appeal	500.00
121 280	221 140	Request for oral hearing	
138 1,510	138 1,510	Petition to institute a public use proceeding	
140 110	240 55	Petition to revive - unavoidable	
141 1,280	241 640	Petition to revive - unintentional	
142 1,280	242 640	Utility issue fee (or reissue)	
143 460	243 230	Design issue fee	
144 620	244 310	Plant issue fee	
122 130	122 130	Petitions to the Commissioner	
123 50	123 50	Processing fee under 37 CFR 1.17(q)	
126 180	126 180	Submission of Information Disclosure Stmt	
581 40	581 40	Recording each patent assignment per property (times number of properties)	
146 740	246 370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149 740	249 370	For each additional invention to be examined (37 CFR § 1.129(b))	
179 740	279 370	Request for Continued Examination (RCE)	
169 900	169 900	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 500.00

## SUBMITTED BY

Name (Print/Type) Francis I. Gray

Registration No. (Attorney/Agent) 27,788

## Complete (if applicable)

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Signature

Date 12/13/2004

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: **EDWARD J. CLEARY, JR. and STEVEN A. KRONSCHNABEL**

Filed: **March 8, 2000**

Examiner: **Ryan R. Yang**

Serial No.: **09/520,927**

Art Unit: **2672**

For: **SURROUND SOUND DISPLAY**

Mail Stop Appeal Brief - Patents  
COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

December 13, 2004

**APPELLANTS' BRIEF**

Dear Sir:

This is an appeal from the Office communication dated June 14, 2004 finally rejecting claims 1, 2 and 7-9 in the above-identified application over prior art.

**Real Party in Interest**

The real party in interest in this appeal is Tektronix, Inc., an Oregon corporation, Appellants' assignee.

**Related Appeals and Interferences**

There are no related appeals and interferences known to Appellants, Appellants' legal representative or Appellants' assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

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### **Status of Claims**

Claims 1, 2 and 7-9 stand finally rejected under 35 U.S. C 103(a) as being unpatentable over Gibson (U.S. Patent No. 5,812,688, and are the claims appealed. Claims 3-6 and 10-15 are objected to, but are indicated as containing allowable subject matter.

### **Status of Amendments**

There were no amendments filed subsequent to the final rejection.

### **Summary of the Invention**

The present invention is a surround sound display for displaying certain characteristics, such as amplitude and phase relationships, of multi-channel sound. (Page 1, lines 6-8) The surround sound display includes a two-dimensional surround sound stage image **10** (Figs. 1-9) with a curvilinear correlation meter scale **12** for each sound channel of the surround sound stage image that has a corresponding sound channel to form a stereo sound source. The curvilinear meter scale includes markers **14** that represent the correlation between the corresponding sound channels. (Page 4, lines 5-18) The surround sound stage image may be speaker images positioned at appropriate positions of the display to represent sound sources. The markers may be a pointer for each sound channel, with the location along the correlation meter scale indicating the correlation between the corresponding sound channels; may be a fill area **16** spanning the correlation meter scales, the width indicating the correlation between the corresponding sound channels, with a thickness **A** (Fig. 7) indicating the amplitude of each sound channel.

### **Issues**

Whether claims 1, 2 and 7-9 are rendered obvious to one of ordinary skill in the art under 35 U.S.C. 103(a) by Gibson?

### **Grouping of Claims**

Claims 1 and 2 stand or fall together, and claims 7-9 each stand separately.

### **Argument**

35 U.S.C. 103(a) provided in pertinent part that a “patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” The U.S. Supreme Court has set forth guidelines for making such a determination in *Graham v John Deere* 148 USPQ 459, 467 (1966): “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.” Generally when an obviousness rejection is made, it is based upon a combination of references.

The Examiner rejected claim 1, stating that Gibson discloses a surround sound display representing a plurality of channels having a two-dimensional surround sound stage image (Fig. 5) with the argument that, since Gibson discloses the image in 3-dimensions, it would be obvious to one of ordinary skill in the art to know the conversion from 3-dimensional to 2-dimensional by just holding the third dimension constant. Appellants submit that to produce the 2-dimensional image

from a 3-dimensional image requires more than just holding the third dimension constant, it also requires determining which dimension will be constant. The Examiner further states that Gibson discloses a curvilinear correlation meter scale for each sound channel of the sound stage image that has a corresponding sound channel to form a stereo sound source (Fig. 5, x-axis 218) with the argument that, since the meter of various curvatures exists in the art, it would have been obvious to one of ordinary skill in the art to chose a curvature because this is within the boundary of a designer's choice. Appellants submit that in fact there is no scale at all in Gibson. The Examiner continues to state that Gibson discloses markers related to the correlation meter scale that represent the correlation between the corresponding sound channels (Fig. 7A) with the argument that the outer boundary of the sphere is the marker representing correlation between the corresponding sound channels. The Examiner concludes that Gibson discloses a surround sound display, but does not explicitly disclose "a correlation meter scale for each sound channel of the sound stage image that has a corresponding sound channel to form a stereo sound source". The Examiner infers that, since Gibson discloses (Fig. 7A) "spheres corresponding to selected channels are arranged in a 'V' formation" (column 6, lines 44-45), since the whole display is scaled by x- and y-axis, it would have been obvious to one of ordinary skill in the art to use the scale corresponding to each sphere as corresponding correlation meter to that channel in order to measure the magnitude of the sphere.

In contradistinction to Appellants' claimed invention Gibson discloses the use of visual images to mix sound, and particularly shows (Figs. 4 and 5) perspective views of a mix window into a three-dimensional room 200 with a floor 202, a ceiling 204, a left wall 106, a right wall 208 and a back wall 210 having a set of axes 218 -- x-axis, y-axis and z-axis. Each channel 12 of audio to be mixed is assigned a predefined visual image, such as a sphere, which has a number of visual

characteristics associated with it, such as size (frequency and amplitude), location (x = balance, y = frequency, z = amplitude), texture (waveform information), density (amplitude) and color (instruments, waveform patterns or frequency range). The user manipulates the visual images – panning horizontally, moving up and down, or moving in or out – to effect a desired mix of the channels. The spheres are translucent or transparent to allow for viewing images when they overlap. In other words the user moves the visual image for each mix channel left or right to emulate the sound coming more from one speaker 214 than the other, moves the image up and down to adjust the frequency, and moves the image in and out to adjust the amplitude. The resulting mix results in corresponding sound channels for a stereo sound source.

The differences between claim 1 and Gibson are clear – Appellants claim a two-dimensional sound stage while Gibson shows a three-dimensional sound stage; Appellants claim a curvilinear correlation meter scale for each sound channel while Gibson shows a visual image for each mix channel and does not have a scale of any kind; and Applicants claim markers related to the correlation meter scales while Gibson has no markers either since Gibson has no scale. The Examiner cites no concrete support for his conclusions, and Appellants submit that the Examiner is indulging in impermissible hindsight based upon what is taught by Appellants, not what is taught or suggested to one of ordinary skill in the art by Gibson. Note that the speakers in Gibson are not shown to represent sound sources, but rather represent the limits to the travel of the visual images in the x-axis direction.

With respect to claim 7 the Examiner equates the edge of the sphere in the x-direction in Fig. 8A of Gibson to the marker claimed by Appellants to indicate correlation between the corresponding sound channels. However as pointed out above the edge of the sphere is a function of frequency and amplitude, not correlation with another mix channel, and is not related to any scale.

Per claim 8 the Examiner equates the solid sphere in Fig. 8A of Gibson to the fill area claimed by Appellants as the marker to show correlation. As indicated above, the sphere is merely a visual image of a single mix channel, and does not show correlation with any other channel.

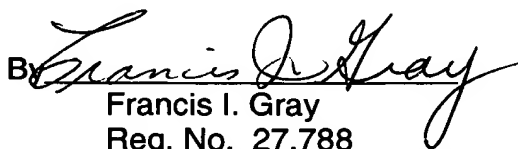
Finally referring to claim 9 the Examiner equates the density of the sphere, which is correlated with amplitude in Gibson, to the width of the fill area claimed by Applicants as indicating the amplitude of each sound channel. Density (degree of opacity of a translucent medium) is not the same as a linear dimensional change.

In view of the fact that Gibson does not disclose a single one of the elements recited in claims 1 and 7-9, there is no basis under Graham v. John Deere for finding any similarities between Gibson and Appellants' claimed invention that would lead one of ordinary skill in the art to obviously derive Appellants' claimed invention from Gibson's disclosure without the benefit of Appellants' disclosure. Therefore claims 1 and 7-9 are deemed to be allowable as being nonobvious to one of ordinary skill in the art over Gibson.

Thus Appellants request that the Examiner's rejection of claims 1, 2 and 7-9 be reversed, and that this case be passed to issue together with claims 3-6 and 10-15 dependent therefrom that already contain allowable subject matter.

Respectfully submitted,

EDWARD J. CLEARY, JR. et al

By   
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## **APPENDIX**

### **Appealed Claims**

Claim 1. A surround sound display representing a plurality of sound channels comprising:

a two-dimensional surround sound stage image;

a curvilinear correlation meter scale for each sound channel of the surround sound stage image that has a corresponding sound channel to form a stereo sound source; and

markers related to the correlation meter scales that represent the correlation between the corresponding sound channels.

Claim 2. The display as recited in claim 1 wherein the surround sound stage image comprises speaker images positioned at appropriate positions of the display to represent sound sources.

Claim 7. The display as recited in claim 1 wherein the markers comprise a pointer for each sound channel, the location of the pointer along the correlation meter scale indicating the correlation between the corresponding sound channels.

Claim 8. The display as recited in claim 7 wherein the markers comprise a fill area spanning the correlation meter scales for the corresponding sound channels, the width of the fill area indicating the correlation between the corresponding sound channels.

Claim 9. The display as recited in claim 8 wherein the thickness of the fill area indicates the amplitude of each sound channel.